

AMENDMENT TO THE DRAWINGS

The attached sheets of drawings include changes to FIGS. 1 and 2. Sheet 1, which includes FIG. 1, replaces the original sheet including FIG. 1. Sheet 2 which includes FIG. 2, replaces the original sheet including FIG. 2.

Attachment: Replacement Sheets (2)

REMARKS/ARGUMENTS

Favorable reconsideration of this Application, as presently amended and in light of the following discussion, is respectfully requested.

This Amendment is in response to the Office Action mailed on December 30, 2004. Claims 1-3 and 9-20 are pending in the Application and Claims 1-13 stand rejected. Claims 1-3 and 9-13 are amended, Claims 4-8 are cancelled without prejudice or disclaimer, and new Claims 14-20 are added by the present Amendment.

In the outstanding Office Action, the drawings were objected to under 37 C.F.R. § 1.84; the specification was objected to for failing to include a brief description of the drawings; Claims 2 and 13 were objected to for minor informalities; Claims 1, 2, 4, 5, 7-9, and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Maag (U.S. Patent No. 4,166,323); Claims 1, 2, 5, 6, and 13 were rejected under 35 U.S.C. § 102(b) as being anticipated by Schiler (U.S. Patent No. 3,279,079); Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Maag in view of Rocks (U.S. Patent No. 4,450,628); and Claims 10 and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Maag in view of Newton (U.S. Patent No. 4,383,369).

Claim 13 was not indicated as having been rejected by Schiler either on form PTOL-326 or in any of the paragraphs summarizing the rejections in the Detailed Action portion of the outstanding Office Action. Applicants thank Examiner Cohen for the telephonic discussion of this issue on June 29, 2005 and the clarification that Claim 13 was to be included in paragraph 7 as being rejected by Schiler. Consideration of this matter in making the next Official Action final is respectfully requested.

As to the objection to Applicants' drawings, Applicants have submitted herein replacements for FIGS. 1 and 2 and amendments to several paragraphs in the specification, correcting the informalities noted by the Examiner and respectfully request reconsideration of

the objection thereto. As to the assertion that element 50 was not mentioned in the description, Applicants respectfully calls the attention of the Office to page 12, line 1 of the specification. Applicants respectfully submit that no new matter has been added to the above-referenced application by the replacement drawings submitted.

As to the objection to Applicants' specification, Applicants note with appreciation the time taken by the Examiner to identify specific areas needing revisions. Applicants have herein submitted replacement to several paragraphs in the specification to correct the outstanding informalities and respectfully request reconsideration of the same. In addition, Applicants have submitted an amended abstract for better compliance with standard U.S. practice. Entry of the amended abstract is respectfully requested.

As to the objection to Claims 3 and 13, Applicants again note with appreciation the time taken by the Examiner to identify specific areas needing revisions. Applicants have amended Claims 3 and 13, including correction of the cited informalities, and respectfully request reconsideration of the objection thereto. In addition, in view of the present amendment, it is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

As to the anticipation rejections, Applicants respectfully submit that Claim 1 is not anticipated by Maag and Claims 1 and 13 are not anticipated by Schiler because each and every element as set forth in those claims is not found, either expressly or inherently described, in the cited references. In an anticipation rejection, the identical invention must be shown in as complete detail as is contained in the claim.<sup>1</sup>

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<sup>1</sup> See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

According to a feature of the invention as set forth in presently amended Claim 1, a device configured to measure a profile of a part is recited, comprising, among other limitations, a feeler; a support; a table with two perpendicular movements linking the support to the feeler; and a machining mandrel holding the part, whose profile is to be measured. ***The support and the mandrel are mutually movable and comprise complementary immobilization means.***

Those of ordinary skill in the art understand that the complementary immobilization means allows the performance of the profile measurements during the machining of the part without dismounting the part. When the measurements indicate that machining must be resumed, the feeler is removed, but it can be mounted on the mandrel again after the machining step and at the same position, within negligible positioning errors. Comparisons of successive measurements can be simply accomplished due to the invariable reference position taken by the support on the chuck. Further, the complementary immobilization means further prevents or minimizes accidental displacement of the device or the part during the measurements. Maag and Schiler fail to disclose or suggest the mutually movable support and mandrel comprising the complementary immobilization means as recited in Claim 1, i.e. immobilization means disposed on the support and the mandrel that are complementary to each other.

The outstanding Office Action asserts that the pedestal 6 of Maag is the recited support and that the unnumbered element holding the workpiece 4 is a mandrel. However, although the pedestal 6 is “slidably mounted in a guideway 5 of the base 2 [ ] functioning as a measurement carriage in a co-ordinate direction y,”<sup>2</sup> the pedestal 6 and the unnumbered element holding the workpiece 4 do not comprise complementary immobilization means, i.e., neither the base plate 2 nor the testing machine 1, disposed between the pedestal 6 and the

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<sup>2</sup> Maag, col. 2, lines 47-49.

unnumbered element holding the workpiece 4, are complementary to each other and configured to immobilize the pedestal 6 from moving with respect to the unnumbered element holding the workpiece 4. In fact, if the pedestal 6 and the unnumbered element holding the workpiece 4 (or for that matter any elements therebetween) comprised complementary immobilization means preventing their relative motion as proposed by the outstanding Office Action, no measurements in the y direction would be possible in the device of Maag.

As to Schiler, an inspection machine 10 is disclosed having a support base 11 supporting contact means 70 disposed on a projecting arm 50 used to inspect bores 13-13 that extend inwardly from a face 14 of a casting 15. The casting 15 is supported on a surface table 16 that is preferably disposed in a horizontal plane as shown in FIG. 1 of Schiler.<sup>3</sup> The outstanding Office Action asserts that the support base 11 is the recited support. A mandrel was not identified in Schiler. Applicants respectfully submit that the table 16 is not a mandrel. Even if it were one, the support base 11 and the table 16 do not comprise the complementary immobilization means recited in Claim 1.

As shown in Maag and Schiler, in conventional devices, the feeler and its support are merely laid near the part to be measured so that no complementary immobilization is provided. When they are inadvertently displaced, the measurement is void. When a measurement must be resumed after the feeler was moved away in order to avoid interfering with a machining step or any other reason, a comparison of successive measurements is difficult because the successive relative positions of the feeler support remain unknown in the absence of a position reference provided by immobilization means similar to ones recited in Claim 1.

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<sup>3</sup> Schiler, col. 2, lines 47-56.

In other instances of the prior art the support may be set at a fixed position near the part to be measured, by magnets under the support for instance, but no complementary immobilization means that would provide a reference position for the support are still present because no immobilization means are provided at all on the other chuck. The position of the support is undetermined and cannot be found again if the support had to be moved away, so that the second above-mentioned drawback remains.

As explained, Maag is silent on complementary immobilization means provided both on the support 2 and the table 1. Similarly, Schiler is silent on complementary immobilization means provided both on the support 11 and the table 16. No reference position can be taken by the supports on the tables in these instances.

Based at least on the above remarks, Applicants respectfully submit that Claim 1 is not anticipated by either Maag or Schiler.

Turning to the anticipation of Claim 13 based on Schiler, according to a feature of the invention as set forth in the presently amended Claim 13, a process for measuring the profile of a part is recited, comprising, among other features, *calibrating the portable feeler device* and *automatically correcting measurement errors due to wear or deformation of the feeler, using the results of the calibration*.

The outstanding Office Action asserts that some sort of calibration is disclosed in Schiler, at col. 6, lines 28-43 and that an automatic correction of measurement errors due to wear or deformation of the feeler, using the results of the calibration is disclosed at col. 6, lines 62-72 of that reference. Applicants respectfully disagree with both assertions for the following reasons.

First, at col. 6, lines 28-43 of Schiler, Applicants respectfully submit that there is no expressed or inherent disclosure of any calibration. The cited passage simply recites the preparatory steps to be followed before the probing means 70 is inserted in the first bore to be

measured. Secondly, at col. 6, lines 62-72, Schiler discloses the procedure to be followed to find the true center of the bore being measured. The last sentence of that citation reads “at this time, the true center of the bore in question is established.” In fact, Schiler is silent with respect to a corrections due to wear or deformation of a feeler based on a previously performed calibration.

As such, Applicants respectfully submit that Schiler cannot support a *prima facie* case of anticipation of Claim 13 because, no calibration of a portable feeler device and no automatic correction of a measurement error due to wear or deformation of the feeler, using the results of the calibration, are disclosed by that reference.

Based at least on the foregoing, Applicants respectfully submit that Claim 1 is not anticipated by either Maag or Schiler and Claim 13 is not anticipated by Schiler. In addition, Claims 2, 4, 5, 7-9, and 12 and Claims 2, 5, and 6 should be allowed, among other reasons, as depending either directly or indirectly from Claim 1, which should be allowed as just explained. Therefore, Applicants respectfully request that the anticipation of Claims 1, 2, 4, 5, 7-9 and 12 and Claims 1, 2, 5, and 6 under 35 U.S.C. §102(b) be withdrawn.

As to the obviousness rejections, Applicants respectfully submit that Maag, Rocks, and Newton, neither individually nor in any combination, support a *prima facie* case of obviousness of the invention recited in Claim 1. This is so for at least two reasons. First, even when combined, these references do not teach or suggest all the claimed features. Secondly, there is no motivation to combine the references.

The deficiencies of Maag in support of an anticipation rejection of Claim 1 have already been discussed. The outstanding Office Action further acknowledges that Maag fails to teach and disclose (1) immobilization means of a support comprising a pair of pins; (2) an oblique feeler; (3) a return device of the rod; and (4) a holding means to hold the rod in two positions. Rocks and Newton have been cited for assertedly remedying these acknowledged

deficiencies of Maag. However, Rocks and Newton do not remedy the above-noted deficiencies of Maag associated with the complementary immobilization means as already explained. As such, Maag, Rocks, and Newton, either individually or in any combination, can support a *prima facie* case of obviousness of Claim 1. Claims 3, 10, and 11 depend from Claim 1.

As to the lack of motivation to combine, Applicants respectfully submit that no reasonable explanation, based on substantial evidence and considering the teachings of the references as a whole, is provided in the outstanding Office Action to justify the combination of references.

For example, the Office suggests modifying Maag by incorporating therein the two penetrating probes 11 and 12 of Rocks. Such a modification of Maag would be useless and, in fact, make the device of Maag unsatisfactory for its intended use.

Rocks discloses a printing press blanket gauge 10 with two penetrating probes 11 and 12. Within the case 10 is a standard dial test indicator 19 having a rotatable bezel 20. A plunger 22 projects from the gauge in the usual manner and movement of the plunger causes rotational movement of the indicator needle 23. In use, the probes 11 and 12 are placed in contact with a flat surface 24 of the blanket (FIG. 2), moving the plunger 22 into the casing until the extremities of the plunger 22 and the probes 11 and 12 are aligned. The tips of the probes 11 and 12 will penetrate the blanket thereby making contact with the metal surface of the roller. The end of the plunger 22 will rest on the surface of the blanket as shown in FIG. 3 and the needle 23 will indicate on the dial 21 directly the thickness of the blanket.

In Maag, the bearings, whose profiles are being measured, have not been disclosed as having any layers of soft material deposited thereon, the thickness of which is intended or desired to be measured. In addition, it is clear to one of ordinary skill in the art that if one were to introduce the two probes 11 and 12 from Rocks on both sides of the tip element or



stylus 12 of Maag, the ability of the resulting device to measure profiles in small areas would be significantly reduced. This is so because the device of Maag is limited to small areas having a characteristic length scale slightly larger than the diameter of the stylus 12. With the introduction of the two probes 11 and 12 of Rocks in the device of Maag, that characteristic length scale would increase to a value slightly larger than the separation of the two probes 11 and 12, thus significantly limiting the size of the parts to be profiled.

Applicants respectfully submit that there is no motivation to modify Maag with the incorporation of the two probes 11 and 12 of Rocks. A conclusion to the contrary is simply based on the use of impermissible hindsight, using Applicants invention as a blue print and disregarding the teaching of the references as a whole.

Similar arguments are applicable to the proposed modification of Maag by incorporation of the elements of Newton as proposed in the outstanding Office Action. For example, the Office proposes to introduce the side plates 24, having concave arcuate surfaces 26 and end surface 32 as travel stops in the device of Maag. One of ordinary skill in the art would quickly realize that such a modification would limit the size of the part to be profiled. In Maag, the size of the part to be profiled is limited to the length of the probe or feeler 11. Incorporation of the side plates 24 would reduce the largest size of the part to be profiled to the distance from the end surface 32 to the tip of the stylus 12, or end of the feeler 11, thus making Maag unsatisfactory for its intended use. Again, a conclusion to the contrary is simply based on the use of impermissible hindsight, using Applicants invention as a blue print and disregarding the teaching of the references as a whole.

Based at least on the foregoing, Applicants respectfully submit that Maag, Rocks, and Newton, neither individually nor in any combination, support a *prima facie* case of obviousness of the invention recited in Claim 1 because, (1) even when combined, these references do not teach or suggest all the claimed features, and (2) there is no motivation to

combine the references, as explained. In addition, Claims 3, 10, and 11 should be allowed, among other reasons, as depending either directly or indirectly from Claim 1, which should be allowed as just explained. For the foregoing remarks, Applicants respectfully request withdrawal of the rejection of Claims 3, 10, and 11 under 35 U.S.C. § 103(a).

Finally, Applicants have submitted new Claims 14-20, which find non-limiting support on the subject matter originally disclosed as follows: (1) as to Claims 14-16, on pages 5 and 6 of Applicants' specification; as to Claim 17, on the originally filed application, drawings, and claims; and (3) as to Claims 18-20, on page 9, line 17 – page 10, line 6. Therefore, new Claims 14-20 are not believed to raise a question of new matter.<sup>4</sup> Because Claims 14-16 and 20 incorporate by reference all of the features of Claim 1, in view of the above-presented remarks, Applicants respectfully submit that new Claims 14-16 and 20 should allowed over Maag, Schiler, Rocks, and Newton.

New Claim 17 recites a measurement device configured to measure a profile of a part, comprising, among other features a support, a mandrel to hold the part, and means for complementarily immobilizing the support and the mandrel. Claims 18 and 19 depend from Claim 17. Applicants respectfully submit that under the provisions of 35 U.S.C. § 112, sixth paragraph<sup>5</sup> and the examining guidelines clearly outlined in the MPEP §§ 2181-2183, Claim 17 is not anticipated nor made obvious by any of the cited references, individually or in any combination, because (1) none of the elements, or combinations thereof, disclosed therein are the same or performs an identical function substantially the same way to produce substantially the same results as the disclosed structural features comprising the means for complementarily immobilizing the support and the mandrel of the present invention; (2) those

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<sup>4</sup> See MPEP 2163.06 stating that "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter."

<sup>5</sup> "The broadest reasonable interpretation that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination." MPEP § 2181, citing *In re Donaldson Co.*, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994).

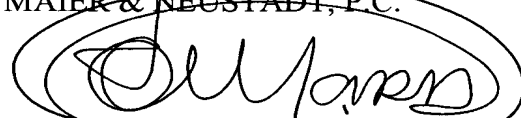
of ordinary skill in the art would not recognize the interchangeability of elements of the cited references to the ones disclosed in Applicants' specification; (3) the differences between the elements in the cited references and corresponding elements disclosed in Applicants' specification are substantial; or (4) the elements in the cited references are not structural equivalents of the corresponding elements disclosed in Applicants' specification.<sup>6</sup> As such, Applicants respectfully submit that Claims 17-19 patently distinguish over Maag, Schiler, Rocks, and Newton.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-3 and 9-20 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicants' undersigned representatives at the below listed telephone number.

Respectfully submitted,

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<sup>6</sup> See generally MPEP §§ 2181-2183.